

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US2004/022724

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F16K1/30 F17C13/04 F16K1/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F16K F17C

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2 924 421 A (POHNDORF HENRY L) 9 February 1960 (1960-02-09) column 2, line 37 - column 4, line 46 figures	1-18
Y	EP 0 500 207 A (KYOHARA MASAKO) 26 August 1992 (1992-08-26) column 2, line 54 - column 3, line 48 column 4, line 16 - line 51 figures 1,6-8	1-5, 10-14
Y	DE 196 45 608 A (MESSER GRIESHEIM GMBH) 7 May 1998 (1998-05-07) column 2, line 57 - line 67 column 3, line 21 - line 31 figures 1,3	6-9, 15-18
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☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

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O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

15 November 2004

Date of mailing of the international search report

22/11/2004

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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A	US 6 230 737 B1 (DEBRIAE THOMAS EDWARD ET AL) 15 May 2001 (2001-05-15) column 2, line 24 - column 4, line 21 figures 1,2	1, 3, 10, 12
A	US 3 549 121 A (MERCIER JACQUES H) 22 December 1970 (1970-12-22) column 1, line 39 - column 3, line 20 figures 1-4	1-18
A	FR 503 537 A (APPLIC DES GAZ LIQUEFIES SA D) 12 June 1920 (1920-06-12) page 1, line 38 - page 3, line 25 figures	1-18
A	GB 157 189 A (SCHRADERS SON INC) 28 July 1921 (1921-07-28) page 1, line 79 - page 2, line 100 figures	1-18

INTERNATIONAL SEARCH REPORT

Information on patent family members

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